

IN THE CLAIMS

1. (Currently Amended) A method of digitally managing the transfer of financial instruments between a first party owner and a second party, the method comprising the steps:

a third party emitter issuing to the owner a title for a financial instrument, the title including (i) a message describing the title and how to contact the ~~owner~~ emitter, and (ii) a digital signature of the ~~owner~~ emitter;

the owner transferring ownership of the financial instrument to another person, including the steps of

- i) the owner appending to the title a public part of a signature scheme of said other person, and
- ii) the owner signing the title using a public signature scheme of the owner.

2. (Previously Amended) A method according to Claim 1, wherein the transferring step includes the step of the emitter appending to the title a number indicating the number of successive owners of the title.

3. (Original) A method according to Claim 1, further comprising the step of the owner keeping the public part of the signature of the other person and making said public part available to potential subsequent buyers.

4. (Original) A method according to Claim 1, further comprising the step of sending the title, with the signature of the owner made using the public signature scheme of the owner, to said other person.

5. (Original) A method according to Claim 1, wherein the creating step includes the step of using a secure cryptographic generator to create the title.

6. (Original) A method according to Claim 5, wherein the secure cryptographic generator is an IBM 4758.

7. (Currently Amended) A system for digitally managing the transfer of financial instruments between a first party owner and a second party, comprising:

means for a third party emitter to issue to the owner a title for a financial instrument, the title including (i) a message describing the title and how to contact the ~~owner~~ emitter, and (ii) a digital signature of the ~~owner~~ emitter; and

means for the owner to transfer ownership of the financial instrument to another person, including

- i) means for the owner to append to the title a public part of a signature scheme of said other person, and
- ii) means for the owner to sign the title using a public signature scheme of the owner.

8. (Previously Amended) A system according to Claim 7, wherein the means to transfer ownership includes means for the emitter to append to the title a number indicating the number of successive owners of the title.

9. (Original) A system according to Claim 7, further comprising means for the owner to keep the public part of the signature of the other person, and to make said public part available to potential subsequent buyers.

10. (Original) A system according to Claim 7, further comprising means for sending the title, with the signature of the owner made using the public signature scheme of the owner, to said other person.

11. (Original) A system according to Claim 7, wherein the means for creating includes a secure cryptographic generator.

12. (Cancelled).

13. (Currently Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for digitally managing the transfer of financial instruments between a first party owner and a second party, said method steps comprising:

a third party emitter issuing to the owner a title for a financial instrument, the title including (i) a message describing the title and how to contact the ~~owner~~ emitter, and (ii) a digital signature of the ~~owner~~ emitter;

the owner transferring ownership of the financial instrument to another person, including the steps of

- iii) the owner appending to the title a public part of a signature scheme of said other person, and
- iv) the owner signing the title using a public signature scheme of the owner.

14. (Previously Amended) A program storage device according to Claim 13, wherein the transferring step includes the step of the emitter appending to the title a number indicating the number of successive owners of the title.

15. (Original) A program storage device according to Claim 13, wherein said method steps further comprise the steps of the owner keeping the public part of the signature of the other person, and making said public part available to potential subsequent buyers.

16. (Original) A program storage device according to Claim 13, wherein said method steps further comprise the step of sending the title, with the signature of the owner made using the public signature scheme of the owner, to said other person.

17. (Original) A program storage device according to Claim 13, wherein the creating step includes the step of using a secure cryptographic generator to create the title.

17. (Original) A program storage device according to Claim 13, wherein the creating step includes the step of using a secure cryptographic generator to create the title.

18. (Cancelled).

19. (Previously Presented) A method according to Claim 1, wherein:

said signature scheme includes a private key and a public key; and

the step of the owner signing the title includes the step of the owner using the public key of the signature scheme to encrypt the owner's signatures in the title.

20. (Previously Presented) A method according to Claim 19, wherein the transferring step includes the steps of:

appending to the title a number indicating the number of successive owners of the title;
and

said other person using said private key of the signature scheme to decrypt the owner's signatures and said number.

21. (New) A method according to Claim 1, wherein:

the digital signature of the emitter includes a public key of a public/private key pair of the emitter;

the issuing step includes the step of making a serial number and a description of the title publicly available as soon as the title is created;

the transferring step includes the steps of, after the public part of the signature scheme of said other person is appended to the title,

- i) communicating to the emitter said public part of the signature scheme of said other person,
- ii) sending to the emitter a number N indicating the number of successive owners of the title,
- iii) the emitter keeping said public part of the signature scheme of said other person and making said public part of the signature scheme of said other person available to potential future buyers,
- iv) the emitter re-signing the title, and sending the re-signed title to said other person, and
- v) the emitter posting that there is a new owner of the title and describing the public part of the signature scheme of said other person; and

a potential buyer asking the emitter to freeze the possibility of selling the title to anyone else for a period of time.

22. (New) A method according to Claim 21, wherein:

the emitter is comprised of a set S of geographically distributed servers; and

the issuing step includes the steps of

- i) using a signing key to make the digital signature of the emitter, said signing key including a plurality of partial keys,
- ii) sharing the signing key between the set of servers, wherein each of the servers has one of said partial keys,
- iii) at least some of the servers signing the title using a distributed protocol and using the partial keys of the servers,
- iv) considering the title signed by the emitter only if a defined subset of the S servers sign the title,
- v) using specified hardware to issue the title, and
- vi) using the specified hardware to print lists of title numbers and descriptions of the public part of the signature scheme used by the emitter.